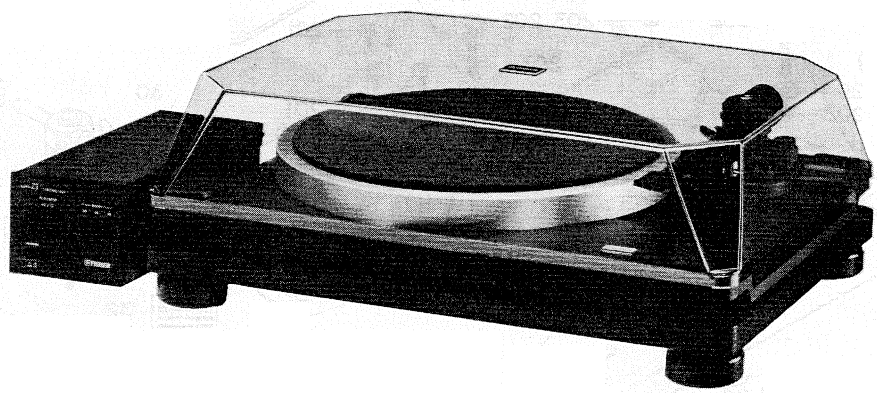
SERVICE MANUAL

FISHER

FG-SERVO BELT DRIVE
TURNTABLE

MT-Z1

(EUROPE)



134 109 40

SPECIFICATIONS

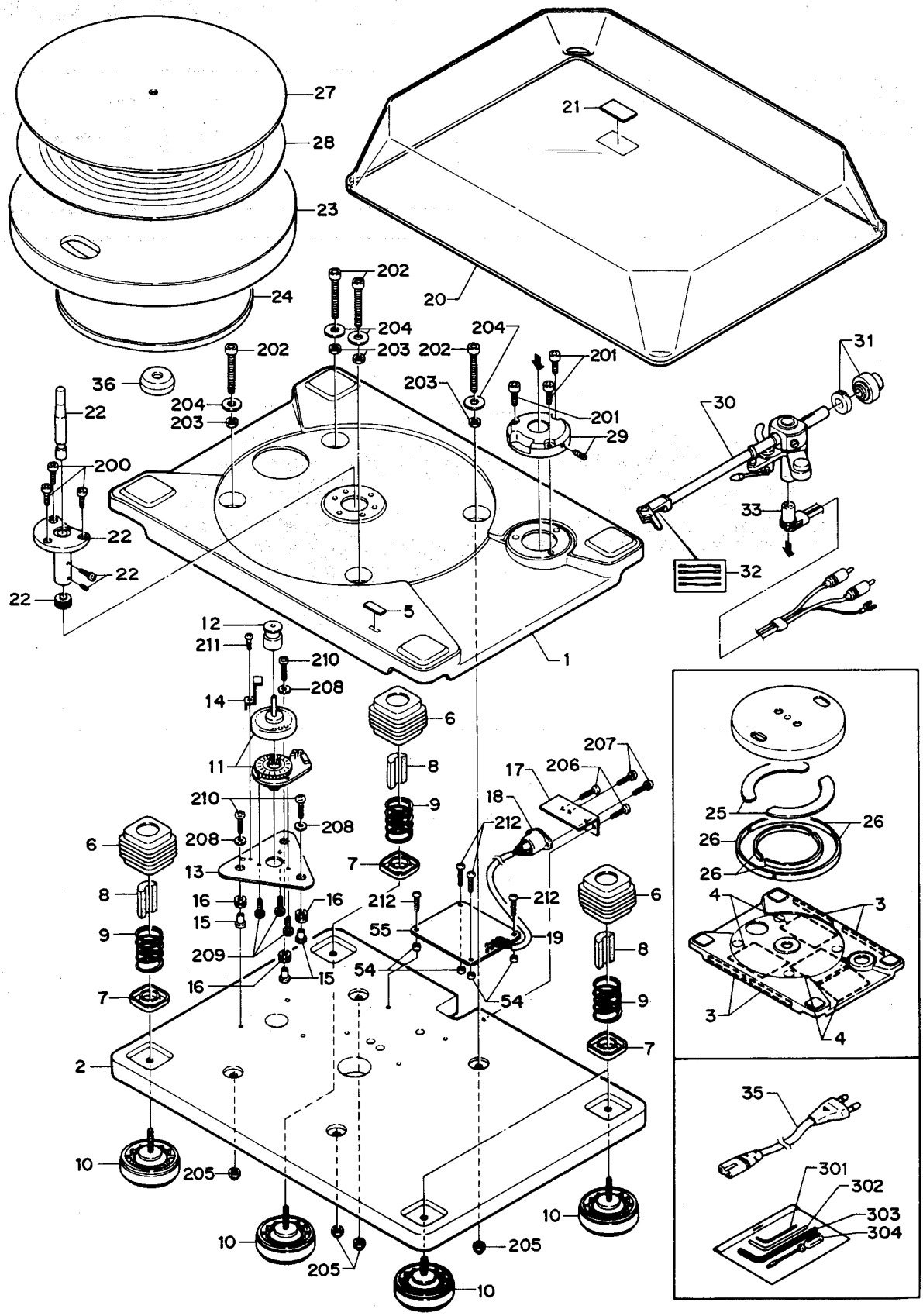
Motor	DC Servo
Drive System	Belt
Wow and Flutter (WRMS)	0.02%
Rumble (DIN 45539B)	−80dB
Speed Variation	±0.5%
Platter Diameter	320mm
Platter Weight	2.3kg
Record Speed Selector	33-1/3rpm / 45rpm / 78rpm
Tonearm Data	
Resonance	<10Hz
Effective Length	222mm
Shape	Straight
Max. Tracking Error	−1°, +2°30′
Cueing	Viscous Damped

GENERAL

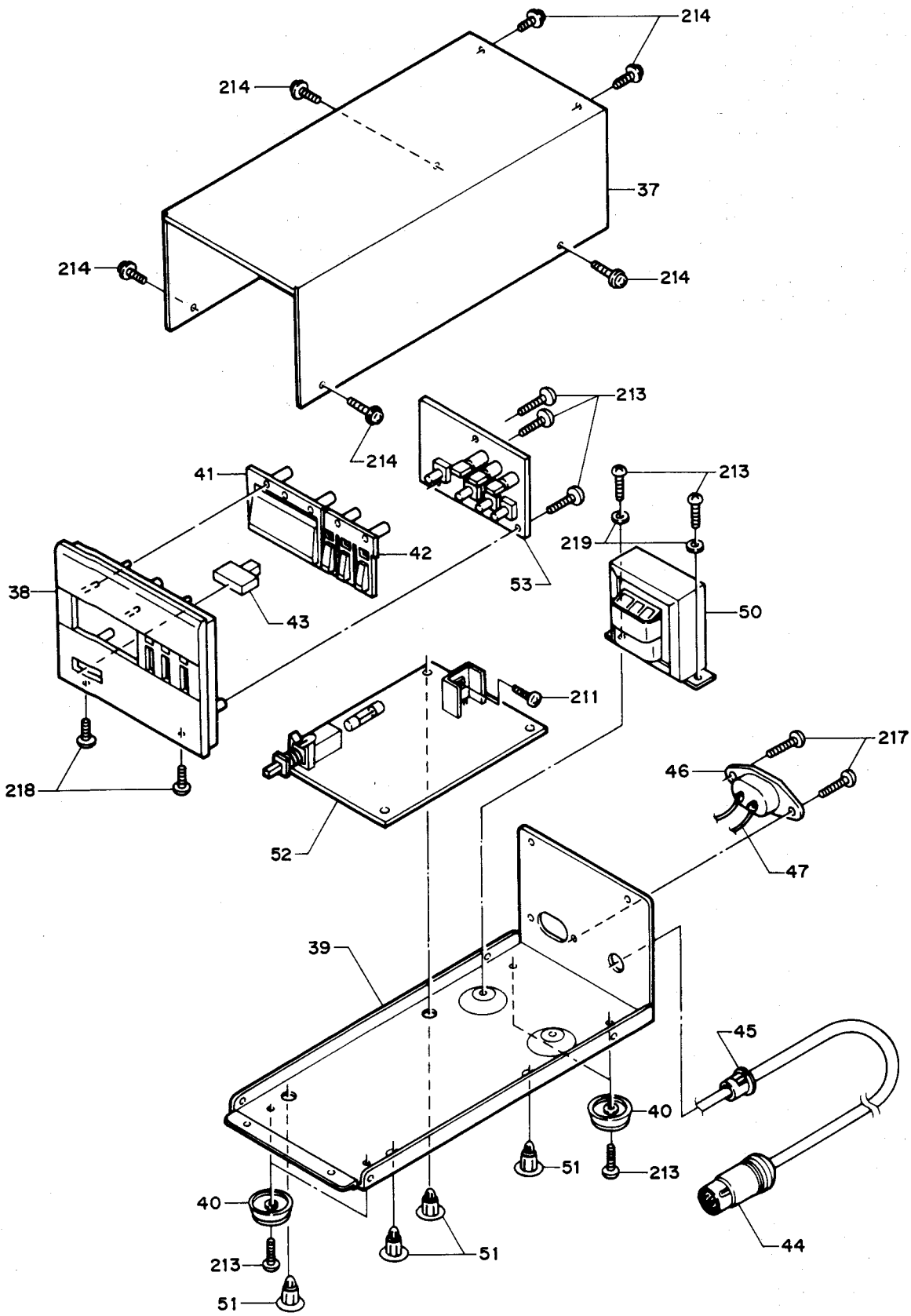
Power Requirements	AC 220V
Power Consumption	5 Watt
Dimensions [TURNTABLE] (WxHxD)	485 x 350 x 145mm
Dimensions [CONTROL] (WxHxD)	100 x 220 x 85mm
Weight [TURNTABLE] (approx)	9.6kg
Weight [CONTROL] (approx)	1kg

REFERENCE No. WM-570384

CABINET EXPLODED VIEW (1)



CABINET EXPLODED VIEW (2)



CABINET PARTS LIST

Ref. No.	Part No.	Description	Q'ty
PACKAGE			
	620 203 2061	Box Corrugate-Exp.	1
	620 203 2078	Pad Bottom	1
	620 203 2085	Pad Top	4
	620 149 3429	Patching Sheet	1
	620 203 2115	Box Corrugate-Exp.	1
	620 203 2122	Pad,Top	1
	620 203 2238	Pad,Bottom	1
	620 203 2245	Pad,Top Right	1
	620 203 2252	Pad,MAT Turntable	1
	620 203 2269	Poly Cover,Weight-Wrench	2
	620 203 2276	Poly Cover,PU	1
	620 203 2283	Poly Cover,PU Pipe	1
	620 148 8067	Bag Polyethylene-IND	2
	620 148 6988	Sheet Polyethylene	1
	620 148 6995	Bag Polyethylene-Exp.	1
	620 203 2405	Bag Polyethylene	1
	620 203 2412	Box Corrugate-Exp.	1
	620 057 8783	Bag Fan	1
	620 152 8961	Serial No. Sheet	7
	620 203 2429	Name Plate	1
	620 203 2436	Sheet	1
	620 203 2450	Label	1
	620 203 2467	Label	1
ACCESSORIES			
	620 203 2894	Stroboscope	1
	620 203 2900	Stylus Position Gauge	1
	620 203 2917	Explanatory Booklet	1
301	620 203 1682	Hexagon Wrench Key 1.5	1
302	620 203 1699	Hexagon Wrench Key 2.5	1
303	620 203 1712	Hexagon Wrench Key 5	1
304	620 203 1729	Driver	1
CABINET			
1	620 203 1262	Base Board	1
2	620 203 1279	Base Board	1
3	620 203 1286	Sheet B	4
4	620 203 1293	Sheet B	4
5	620 195 9123	Badge	1
6	620 203 1309	Cushion	4
7	620 203 1316	Cushion	4
8	620 203 1323	Rubber Cushion	4
9	620 203 1361	Spring	4
10	620 203 1385	Leg Assy	4
11	620 203 1408	Motor Assy	1
12	620 203 1415	Pulley Motor	1
13	620 203 1484	Plate Motor	1
14	620 203 1491	Angle Mount	1
15	620 203 1507	Spacer	3
16	620 064 8684	Rubber Cushion	3
17	620 203 1521	Angle Mount	1
18	620 203 1538	Socket	1
19	620 203 1545	Cord	1
20	620 203 1552	Lid	1
21	620 203 1569	Badge Lid	1
22	620 203 1576	Assy Shaft Turntable	1
23	620 203 1583	Turntable	1
24	620 203 1590	Belt	1
25	620 203 1606	Sheet Turntable	2
26	620 203 1613	Sheet Turntable	5
27	620 203 1620	Mat Turntable	1
28	620 065 0281	Mat Turntable	1
29	620 203 1637	Pick-up Base	1
30	620 203 1644	Assy Tonearm	1
31	620 203 1651	Counter Weight	1
32	620 203 1668	Audio Cable	1
33	620 203 1675	Plug Cord	1
35	⚠ 620 203 1736	Power Cord	1
36	620 203 1750	EP Adapter	1
37	620 203 1774	Cover Control	1
38	620 203 1781	Front Control	1
39	620 203 1798	Bottom Control	1
40	620 203 1804	Leg Assy	4
41	620 203 1859	Knob Start	1
42	620 203 1866	Knob Speed	1
43	620 203 1873	Knob Power	1
44	620 203 1880	Plug Cord	1
45	620 203 1897	Bushing	1
46	⚠ 620 203 1903	In LET	1
50	⚠ 620 203 1927	Power Trans	1
51	620 203 1934	Spacer	4
52	620 203 1941	Assy,PCB,Control	1
53	620 203 1965	Assy,PCB,Front	1
54	620 051 7898	Spacer 4X5X5L	4
55	620 203 2009	Assy,PCB,Motor	1
200	620 203 6014	Screw HEX-SCT M4.0X12	3
201	620 203 6014	Screw HEX-SCT M4.0X12	3
202	620 203 6021	Screw HEX-SCT M6.0X50	4
203	620 203 6038	NUT Cap 6	4
204	620 203 6045	Washer 6.0X20X1	4
205	411 004 6804	NUT HEX 6	4
206	620 203 6052	Screw Wood PAN M3X10	2
207	620 203 6069	Screw PAN Spring WSR M3X10	2
208	411 008 8903	WASHER Z 3.2X10X1	3
209	620 051 2718	Screw (Sems 3X6 Z1)	3
210	620 203 6076	Screw Wood PAN	3
211	411 020 7700	SCR S-TPG BRZ 3X6	2
212	620 203 6083	Screw Wood PAN	4
213	620 051 2466	Screw 3X6	9
214	620 203 6090	Screw	6
217	411 020 8004	SCR S-TPG BRZ 3X8	2
218	411 021 6603	SCR S-TPG BIN 3X8	2
219	620 203 6106	Washer 3.2X8X1	2

NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description	Q'ty
ASSY,PCB,CONTROL			
52	620 203 1941	Assy,PCB,Control	1
	620 017 2721	Fuse Clip	1
	620 053 7247	Plate Heat Sink	1
CN1	620 055 2691	Jumper	1
CN2	620 055 3162	Jumper	1
F101 ⚠	423 003 7201	FUSE 250V 0.5A	1
S101	620 016 8083	Push Switch 1 Key	1
IC101	409 209 6101	IC BU4584B	1
IC102	409 003 9100	IC BU4013B	1
IC102	409 020 7202	IC LC4013B	1
IC103	409 003 8905	IC BU4001B	1
IC103	409 020 6601	IC LC4001B	1
IC104	409 003 9001	IC BU4011B	1
IC104	409 020 6908	IC LC4011B	1
IC105	409 026 8500	IC L78M05	1
IC105	409 039 9907	IC NJM78M05A	1
IC105	409 169 7804	IC NJM78M05FA	1
Q101	405 023 3005	TR 2SD330-E	1
Q101	405 023 3104	TR 2SD330-F	1
Q102	405 004 3901	TR 2SA608-E-NP-AA	1
Q102	405 004 4502	TR 2SA608-F-NP-AA	1
Q103	405 004 3901	TR 2SA608-E-NP-AA	1
Q103	405 004 4502	TR 2SA608-F-NP-AA	1
Q104	405 004 3901	TR 2SA608-E-NP-AA	1
Q104	405 004 4502	TR 2SA608-F-NP-AA	1
D101	407 004 9105	DIODE DSF10C-BT	1
D105	407 049 5407	ZENER DIODE GZA10X-BT	1
D106	407 007 9904	DIODE GMA01-BT	1
D107	407 007 9904	DIODE GMA01-BT	1
D108	407 007 9904	DIODE GMA01-BT	1
D109	407 007 9904	DIODE GMA01-BT	1
D110	407 007 9904	DIODE GMA01-BT	1
C101	403 069 8404	CERAMIC 0.01U Z 50V	1
C102	403 054 2608	ELECT 470U M 35V	1
C103	403 042 3600	ELECT 100U M 16V	1
C104	403 049 5508	ELECT 10U M 50V	1
C105	403 049 5508	ELECT 10U M 50V	1
C106	403 049 5508	ELECT 10U M 50V	1
C107	403 049 5508	ELECT 10U M 50V	1
C108	403 044 0300	ELECT 47U M 16V	1
R101	401 013 5301	CARBON 1.2K JA 1/4W	1
R102	401 016 4806	CARBON 22K JA 1/4W	1
R103	401 016 4806	CARBON 22K JA 1/4W	1
R104	401 016 4806	CARBON 22K JA 1/4W	1
R105	401 016 4806	CARBON 22K JA 1/4W	1
R106	401 016 4806	CARBON 22K JA 1/4W	1
R107	401 012 8105	CARBON 100K JA 1/4W	1
R108	401 012 8105	CARBON 100K JA 1/4W	1
R109	401 016 4806	CARBON 22K JA 1/4W	1
R110	401 016 4806	CARBON 22K JA 1/4W	1
R111	401 016 4806	CARBON 22K JA 1/4W	1
R112	401 012 7009	CARBON 10K JA 1/4W	1
R113	401 012 7009	CARBON 10K JA 1/4W	1
R114	401 012 7009	CARBON 10K JA 1/4W	1
R115	401 016 2604	CARBON 220 JA 1/4W	1
R116	402 015 3005	FUSIBLE RES 10 J- 1/4W	1
ASSY,PCB,FRONT			
53	620 203 1965	Assy,PCB,Front	1
	620 203 1989	Spacer	3
S201	620 016 7789	Tact Switch	1
S202	620 016 7789	Tact Switch	1
S203	620 016 7789	Tact Switch	1
S204	620 016 7789	Tact Switch	1
D201	407 027 5207	LED SLP-151B-50	1
D202	407 027 5207	LED SLP-151B-50	1
D203	407 027 5207	LED SLP-151B-50	1
R201	401 020 0801	CARBON 470 JA 1/4W	1
R202	401 020 0801	CARBON 470 JA 1/4W	1
R203	401 020 0801	CARBON 470 JA 1/4W	1
ASSY,PCB,MOTOR			
55	620 203 2009	Assy,PCB,Motor	1
CN3	620 203 2054	Connector 6P Assy	1
P301	620 004 6824	Semi Fixed 200KB	1
P302	620 004 6824	Semi Fixed 200KB	1
P303	620 004 6824	Semi Fixed 200KB	1
IC301	409 003 2002	IC BA6301	1
IC302	409 051 3501	IC TC4066BP	1
C301	403 067 7300	MT-COMPO 0.33U J 50V	1
C302	403 044 8504	ELECT 10U M 25V	1
C303	403 069 8404	CERAMIC 0.01U Z 50V	1
C304	403 069 8404	CERAMIC 0.01U Z 50V	1
C305	403 049 2002	ELECT 1U M 50V	1
C306	403 072 2703	CERAMIC 0.022U Z 50V	1
C307	403 061 7801	POLYESTER 4700P J 50V	1
C308	403 057 0106	POLYESTER 0.01U J 50V	1
C309	403 069 8404	CERAMIC 0.01U Z 50V	1
C310	403 045 7407	ELECT 22U M 25V	1
C311	403 069 8404	CERAMIC 0.01U Z 50V	1
C312	403 069 8404	CERAMIC 0.01U Z 50V	1
R301	401 027 0309	CARBON 47K JA 1/6W	1
R302	401 025 1902	CARBON 15K JA 1/6W	1
R303	401 025 8208	CARBON 22K JA 1/6W	1
R304	401 024 7004	CARBON 1K JA 1/6W	1
R305	401 027 3201	CARBON 560K JA 1/6W	1
R306	401 027 2600	CARBON 5.6K JA 1/6W	1
R307	401 026 6302	CARBON 360K JA 1/6W	1
R308	401 026 1604	CARBON 270K JA 1/6W	1
R309	401 024 7707	CARBON 100K JA 1/6W	1
R310	401 024 7707	CARBON 100K JA 1/6W	1
R311	401 024 7707	CARBON 100K JA 1/6W	1
R312	401 024 7707	CARBON 100K JA 1/6W	1
R313	401 024 7707	CARBON 100K JA 1/6W	1
R314	401 024 7004	CARBON 1K JA 1/6W	1

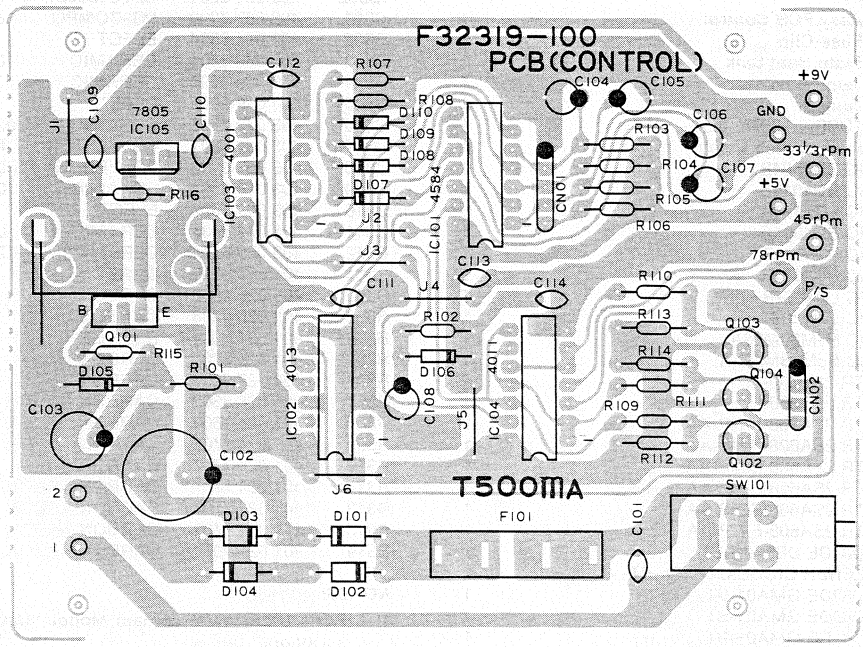
NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

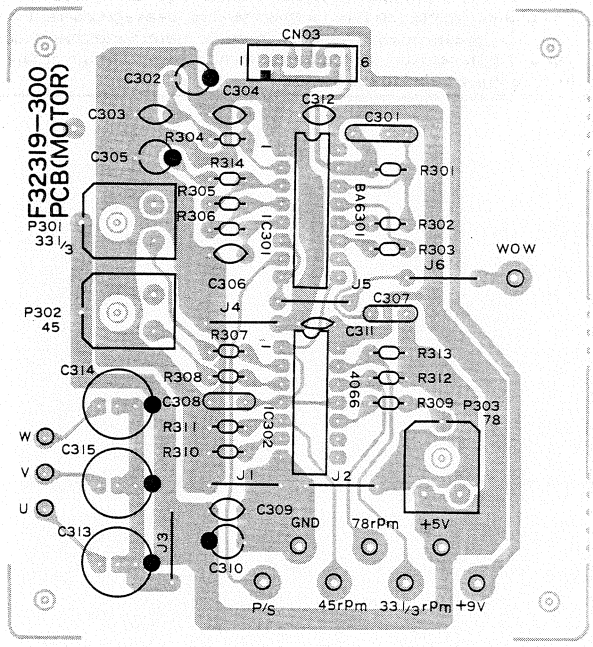
PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

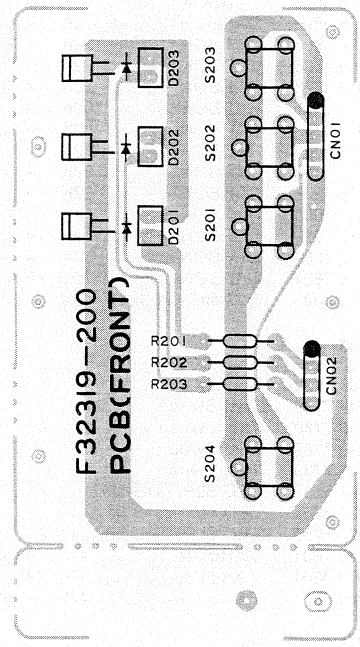
CONTROL P.C.BOARD
(BOTTOM VIEW)



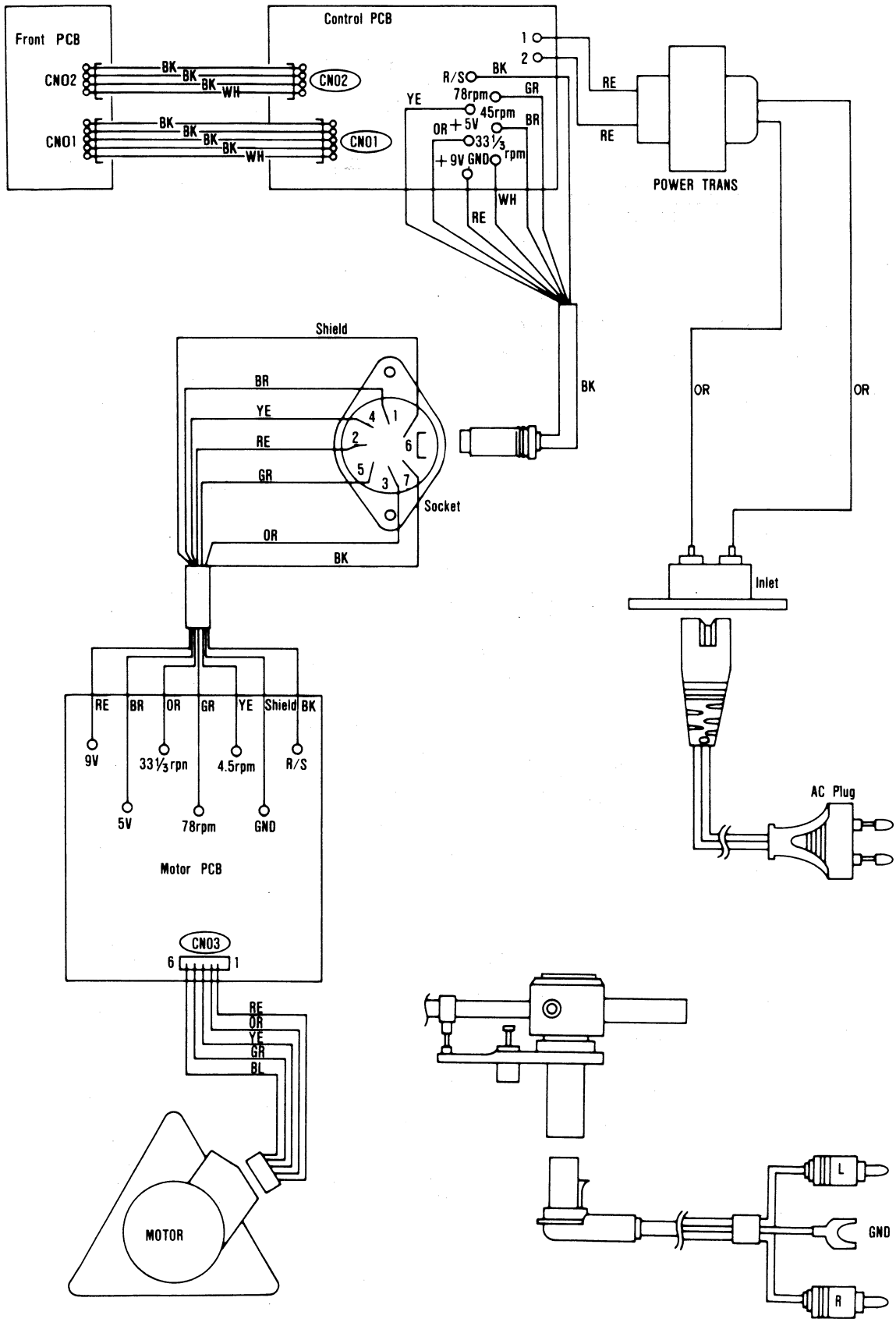
MOTOR P.C.BOARD
(BOTTOM VIEW)



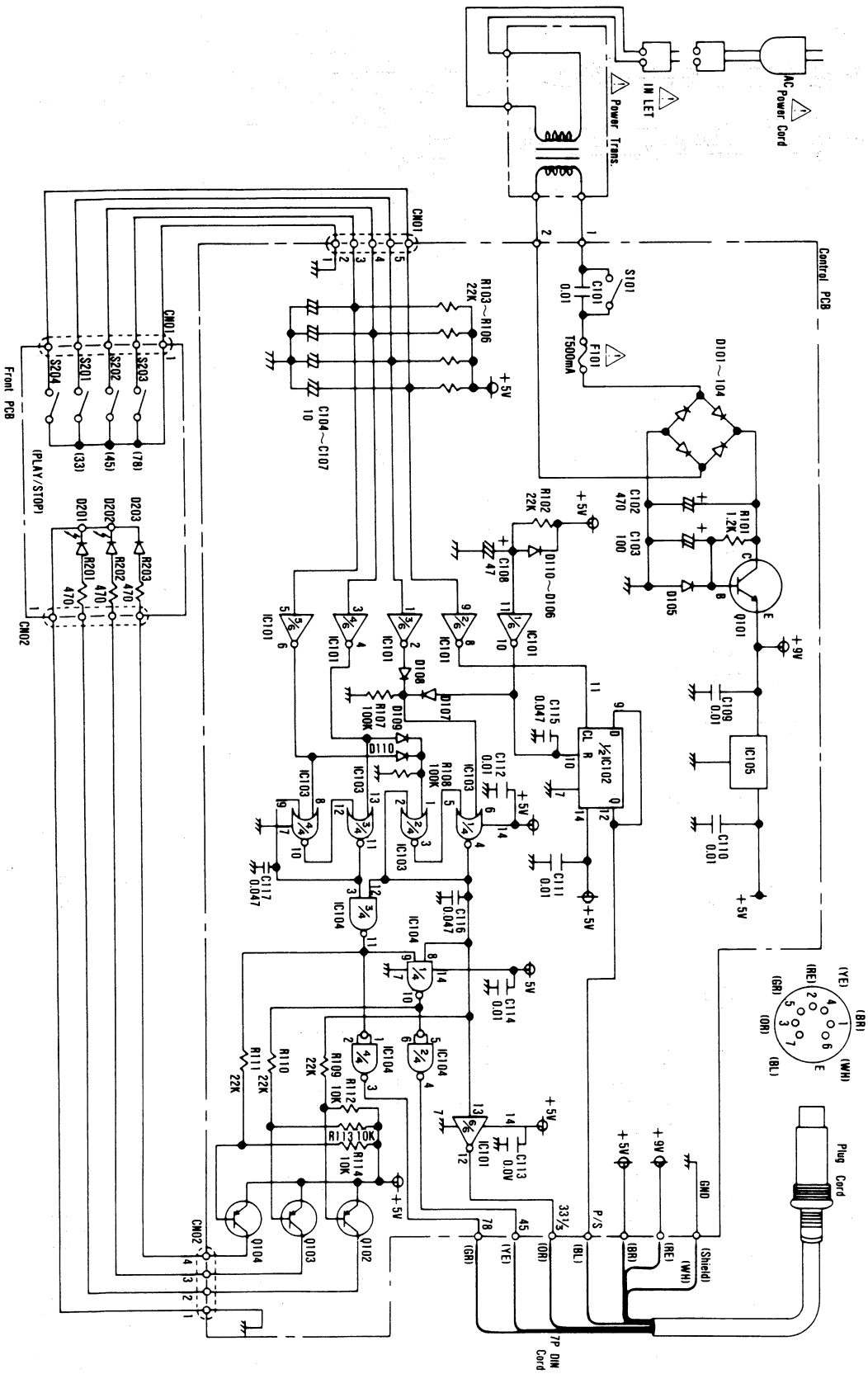
FRONT P.C.BOARD
(BOTTOM VIEW)



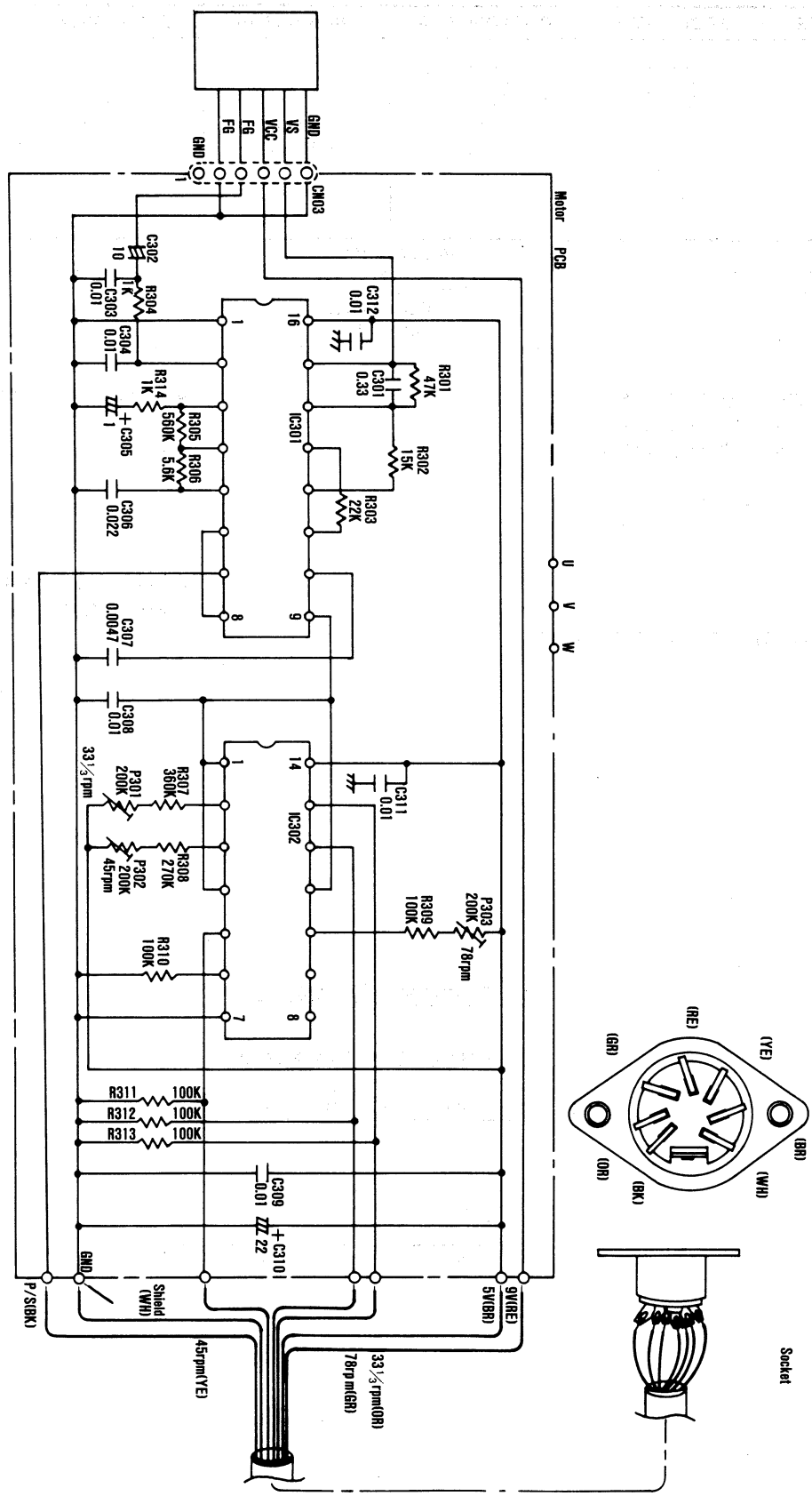
WIRING DIAGRAM



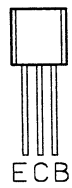
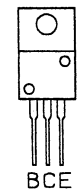
SCHEMATIC DIAGRAM (1)



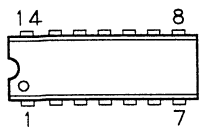
SCHEMATIC DIAGRAM (2)



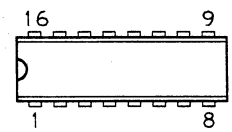
IC & TRANSISTOR LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW	TRANSISTOR	FRONT VIEW	BOTTOM VIEW
2SA608 2SA608			2SD330 2SD330		
TERMINAL NAME					
B → BASE C → COLLECTOR E → EMITTER					

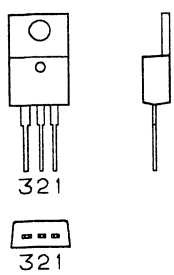
LC4001B TOP VIEW
LC4011B TOP VIEW
LC4013B TOP VIEW



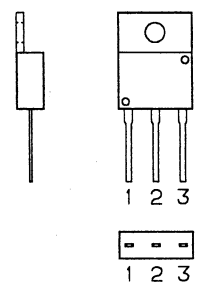
BU4001B TOP VIEW



NJM78M05FA TOP/SIDE VIEWS

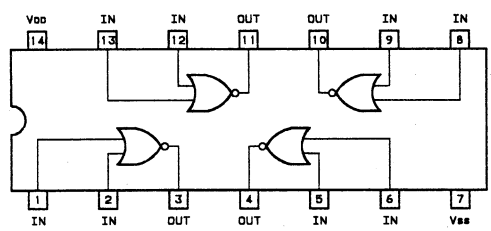


L78M05 TOP/SIDE VIEWS
NJM78M05A TOP/SIDE VIEWS



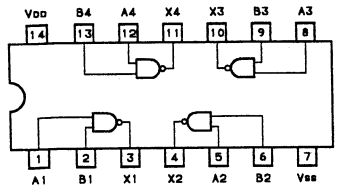
IC BLOCK DIAGRAM

LC4001B BLOCK DIAGRAM

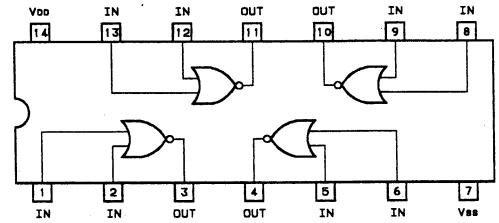


IC BLOCK DIAGRAM (Continued)

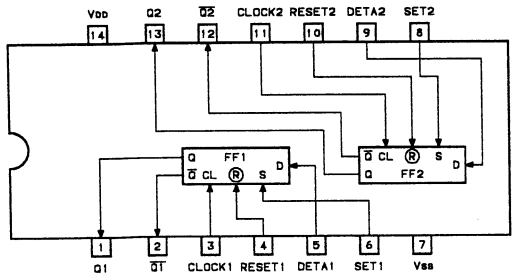
LC4011B BLOCK DIAGRAM



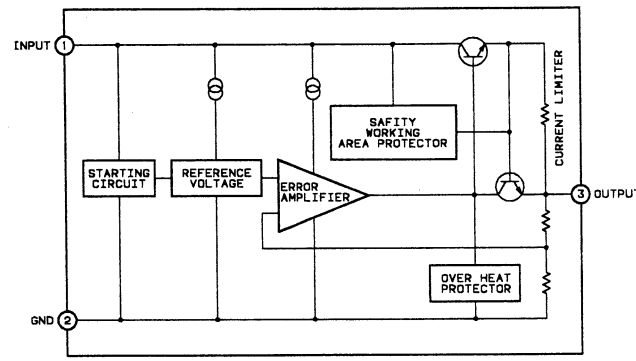
BU4001B BLOCK DIAGRAM



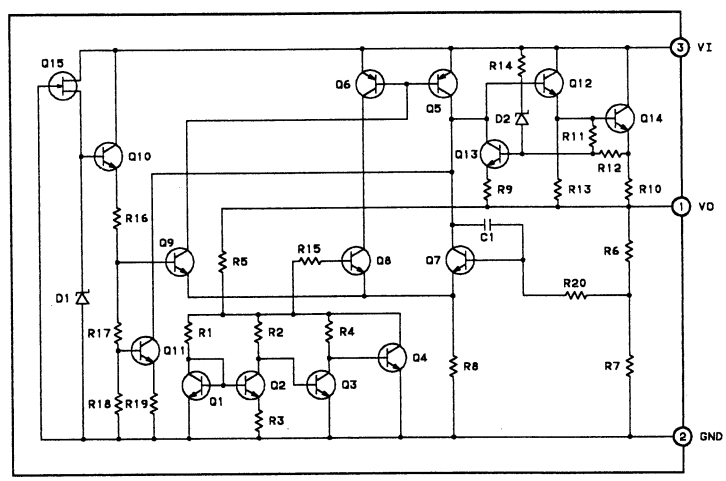
LC4013B BLOCK DIAGRAM



L78M05 BLOCK DIAGRAM

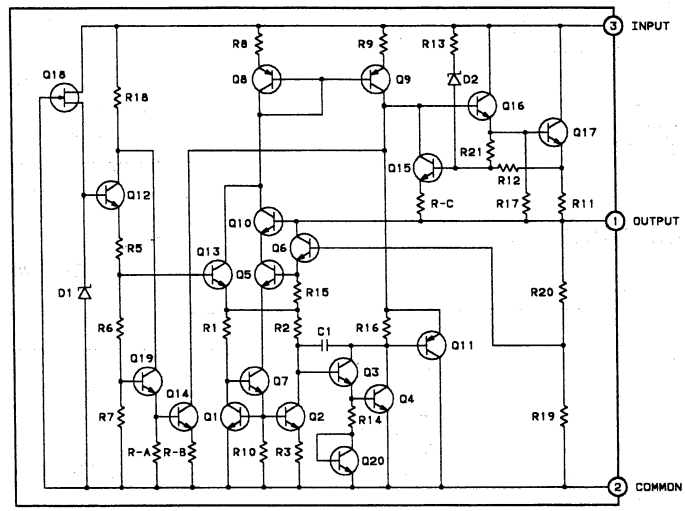


NJM78M05A BLOCK DIAGRAM



IC BLOCK DIAGRAM (Continued)

NJM78M05FA BLOCK DIAGRAM



SANYO FISHER Vertriebs GmbH
Stahlgruberring 4 Tel: 089/420 45-0
8000 München 82 Tlx: 524033

November/'89/1,200/H **Printed in Japan**